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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,842

07/28/2006

Yoshihide Kawaguchi

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EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT

PAPER NUMBER

1795

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DELIVERY MODE

06/23/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,842	<b>Applicant(s)</b> KAWAGUCHI ET AL.	
	<b>Examiner</b> Martin J. Angebrannt	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/28/06, 9/15/06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/28/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "and the molecule may contain a hetroatom or a halogen atom," seems redundant as oxygen is a hetero atom.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toba et al. JP 06-175565 and Ohe et al. '345.

Toba et al. JP 06-175565 (translation attached) teaches a holographic recording medium comprising a crosslinkable polymer, a free radically polymerizable compound (monomer), a cyanine dyes, a sulphonium borate photoinitiator. The examiner notes the polymers (t,u,v) on page 12, which are used in examples 26,27 and 31 in the table on page 15. The use of heat to fix the composition is disclosed. [0052]. The use of other additives including plasticizers, and chain transfer agents is disclosed. [0046]. The resulting holograms have high stability, sensitivity and the diffraction efficiency [0047,0080]. Useful monomers including triethylene glycol acrylates are disclosed. [0013-0014]

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Ohe et al. '345 teaches the addition of a cationically curable monomer increases thermal stability while allowing the free radical monomer migration (4/52-5/16 and 5/58-6/5). The epoxy is an oligomer which is cured by use of heat or light to form a three dimensional matrix (11/48-39) Example 1 uses triethylene glycol triacrylate (21/38-22/7)

It would have been obvious to one skilled in the art to modify the invention of Toba et al. JP 06-175565 by adding thermally curable epoxy and curing agent and heat curing as taught by Ohe et al. '345 to increase the stability of the resulting hologram while allowing monomer migration, as this is congruent with the issues raised in Toba et al. JP 06-175565 and the heat treatment fixation described therein. Alternatively it would have been obvious to modify example 1 of Ohe et al. '345 by adding a crosslinkable polymer, such as polymers t,u or v, taught by Toba et al. JP 06-175565, exposing the material holographically and heat fixing it, with a reasonable expectation of success based upon the common heat fixation and holographic recording and the compatibility with triethylene glycol acrylate compositions.

5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toba et al. JP 06-175565 and Ohe et al. '345, further in view of Kawaguchi **et al.** JP 2005-126688.

Kawaguchi **et al.** JP 2005-126688 teaches in example 6, the composition of example 5 with a chain transfer agent added. [0080] The example 5 blends irgacure 907 [2-methyl-1-[4-(methylthio)phenyl]-2-morpholinopropan-1-one] with syndiotactic PVMA produced in example 1 and exposure to UV light to record a refractive index image. The addition of sensitizers is disclosed and the reference is made to the photoinitiation system of US 3652275 and the use of visible light is disclosed. [0053-0055]

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In addition to the basis above, it would have been obvious to modify the invention rendered obvious by the combination of Toba et al. JP 06-175565 and Ohe et al. '345 by using other polymers with ethylenically unsaturated side chain such as the PVMA polymers of Kwaguchi **et al.** JP 2005-126688 with a reasonable expectation of success based upon these polymer being embraced by the language of Toba et al. JP 06-175565 and the formation of refractive index (polymerization) images in all of the references.

The applicant may perfect priority to obviate this rejection.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1,2,5-9 and 11-18 of copending Application No. 10/574478 (US 2007/0066705) in view of Toba et al. JP 06-175565 and Ohe et al. '345

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It would have been obvious to one skilled in the art to modify the claimed invention of copending Application No. 10/574478 by adding thermally curable epoxy and curing agent and heat curing as taught by Ohe et al. '345 to increase the stability of the resulting hologram while allowing monomer migration with a reasonable expectation of success based upon the common heat fixation and holographic recording and the compatibility with acrylate monomer compositions as evidenced by Toba et al. JP 06-175565

This is a provisional obviousness-type double patenting rejection.

This application has been allowed, so the provisional nature of this rejection may be withdrawn.

8. Claims 1-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of copending Application No. 11/631189 (US 2008/0305404) in view of Toba et al. JP 06-175565 and Ohe et al. '345

It would have been obvious to one skilled in the art to modify the claimed invention of copending Application No. 11/631189 by adding thermally curable epoxy and curing agent and heat curing as taught by Ohe et al. '345 to increase the stability of the resulting hologram while allowing monomer migration with a reasonable expectation of success based upon the common heat fixation and holographic recording and the compatibility with acrylate monomer compositions as evidenced by Toba et al. JP 06-175565

This is a provisional obviousness-type double patenting rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin J Angebranndt/  
Primary Examiner, Art Unit 1795

Martin J Angebranndt  
Primary Examiner  
Art Unit 1795

6/19/09